Daagu International Journal of Basic and Applied Research 6(2) (2024):451-472

Original Research

Impacts of illegal trans-border migration on socio-economic conditions of migrants in Atsbi Wenberta Wereda, Tigray Region, Ethiopia

Haftom Teshale Gebre

Department of Geography and Environmental Studies, Adigrat University, Tigray, Ethiopia
Correspondence: haftomteshale1@gmail.com

Abstract

The purpose of this study was to evaluate the effects of illegal trans-border migration on the socioeconomic well-being of migrants in the Atsbi Wenberta wereda, Tigray Regional State. A total of 134 respondents were selected through stratified sampling, while key informants were selected through simple random and purposive sampling methods. Data were collected using questionnaires, key informant interviews, focus group discussions, and document analysis. Descriptive and inferential statistical methods were used to analyze the data. The findings of the study indicated that illegal trans-border migration had a significant impact on the economy and health of migrants in the study area. The study revealed that illegal trans-border migration has significant economic and health impacts. Specifically, 61.20% of the migrants experienced economic challenges, including a lack of social services, hunger, unemployment, and overwork. Additionally, 48.50% of the variance in illegal trans-border migration was linked to health issues, such as sexually transmitted diseases, malaria, mental health problems, and loss of body parts. The study recommends further research to explore the sources and causes of migration, aiming to mitigate the socioeconomic and health impacts on migrants in the study area.

Key words: Atsbi Wenberta, Ethiopia**,** Illegal migration, socio-economic conditions**,** Tigray

1. INTRODUCTION

Migration is a complex phenomenon influenced by economic, social, and political factors. It involves the movement of individuals between regions—both origin and destination—resulting in either short-term or long-term changes in residence. Developing a comprehensive framework to describe and analyze the migration process remains challenging. By 2010, it was estimated that 10.2% of global migrants would originate from Africa. (Klugman, 2009). About 3% of people

migrate from different parts of the world. Reports show that about 1.9% of the African population participates in international migration (Klugman, 2009).

According to Veeramoothoo (2022) research, international migration is one of the main features of globalization that characterizes every region of the world. It is growing steadily more than ever, with an estimated 271,642,105 migrants (3.5%) of the world population (United Nations Department of Economic and Social Affairs, 2023). Africa is no exception, due to its economic and political turmoil. Illegal cross-border migration is a major phenomenon in the continent (Flahaux and De Haas, 2016). The increase in illegal immigration in Africa is due to several factors, as stated in the International Migration Report (McAuliffe & Ruhs, 2017). Conflict, political discourse, poor environmental conditions, lack of human security, and lack of employment opportunities are among the chief causes of this trend (Fransen & Kuschminder, 2009; Carling & Talleraas, 2016; Rezouni, 2010).

In today's globalized world, migration and its effects are felt in almost every country (Bariagaber, 2014). Illegal immigration is one aspect of this phenomenon, which occurs when people cross a border without meeting the administrative requirements for exit. This is viewed from the perspective of the destination country as entering, staying, and working without the necessary authorization under immigration regulations (Malinowski, 2015). Illegal cross-border movements often coincide with movements that do not comply with the authoritarian practices of the countries of origin, transit, and destination (McAuliffe & Ruhs, 2017).

Illegal migration to the Middle East, particularly from Ethiopia, is a widespread occurrence. The Regional Mixed Immigration Office states that there are 200,000 Ethiopian regular migrant workers in the Middle East, comprising 30-40%, of which 60-70% (between 300,000 and 350,000) are illegal (Gulf Labor Market and Migration, 2017; Frouws, 2014). The primary reasons for this trend are poverty, hunger, war, environmental degradation, and smuggling networks (Fransen & Kuschminder, 2009).

In recent years, the number of international migrants has significantly increased. In 1990, there were 153 million international immigrants, and this number grew to 161 million in 1995, 173 million in 2000, 191 million in 2005, 222 million in 2010, and 244 million in 2015 (McAuliffe &

Ruhs, 2017). Illegal migration is also on the rise in Africa and Ethiopia, with increasing numbers of illegal immigrants traveling to Yemen and Saudi Arabia from the Horn of Africa (Tinti, 2017). Ethiopia, which is the largest cause of illegal migration to Saudi Arabia (Messay & Teferee, 2017), is seeing both legal and illegal migration. According to the Ministry of Labor and Welfare (MoLSA, 2013), around 4.6 million Ethiopians legally migrated between 2008 and 2013, with the majority (79%) going to Saudi Arabia. However, illegal travel is also prevalent, with 60–70% of Ethiopians experiencing it (Marchand et al., 2017). Reports from 2015 and 2016 found that a majority of illegal immigrants in Yemen were Ethiopian (Marchand et al., 2017; Tinti, 2017). The link between immigration and insecurity has been examined in terms of the securitization agenda, with media, politicians, and policymakers arguing that immigration poses a threat to public and national security. As illegal transboundary movements (ITBM) continue to increase, the negative impact on the socio-economic conditions of migrants will also increase. Thus, ITBM becomes a matter of migrant socioeconomics, and scholars have described its impact on illegal immigration.

Illegal migration in Ethiopia has received significant attention recently. The reasons for the increased focus on migration and related issues vary from region to region, but a common factor is the increasing number of illegal migrants each year. Migration dynamics and patterns differ across various regions of Ethiopia.

Ethiopia faces significant challenges with migrant flows, particularly to Middle Eastern countries. Illegal cross-border migration is a significant problem endangering socio-economic migrants in Ethiopia (Elias, 2016). While some young Ethiopians see migration as a cultural alternative to solving their problems, illegal immigration across national borders remains their biggest challenge, leading to various threats. Many young Ethiopians face risks of physical and sexual assault, forced labor, and health issues in their countries of origin, along migration routes, and in destination countries (Koser & McAuliffe, 2013). Furthermore, Ethiopian migrants' safety is compromised during the perilous journey to Saudi Arabia (Endeshaw, 2006).

Illegal migration is a burning issue in Ethiopia, especially prevalent in regions such as Tigray and the Wereda Atsbi Wenberta due to vulnerabilities like drought, famine, and low productivity of farmland. Consequently, many people migrate illegally to other countries, particularly to the Middle East. According to the Wereda Atsbi Wenberta Office of Social Affairs report from March

2009 to June 2010 E.C., the Eastern Zone of Tigray has the highest number of illegal trans-border migrants, totaling 4,000 migrants.

This study enhances the theoretical knowledge of illegal trans-border migration and its socioeconomic effects. It offers a comprehensive analysis of the push and pull variables influencing migration decisions, emphasizing the important role played by environmental and economic factors including unemployment, income, and agricultural output. The study highlights the necessity of integrated strategies by elucidating the intricate relationship between local and regional governance in the management of migration. Moreover, it adds to the existing theoretical frameworks on migration by integrating the unique setting of Tigray, Ethiopia, providing a regional viewpoint that enhances the conversation on migration studies.

The practical understanding of illegal trans-border migration and its socioeconomic effects is enhanced by this study. Local and regional governments can benefit from the findings, which can direct the creation of focused programs aimed at reducing illegal migration. Improving social services and creating more economic possibilities, for example, can address some of the underlying causes of migration. The study highlights the need for better healthcare services for migrants by addressing the health implications of illegal movement, such as exposure to infections and mental health difficulties. Community organizations can use the study's insights into the socioeconomic difficulties experienced by returnee migrants to create support programs that aid in reintegration and lessen the likelihood of remigration. The study emphasizes the perils that migrants encounter when traveling to the Middle East and the significance of international collaboration in creating safer migration routes and safeguarding the rights of migrants.

Although numerous studies have been conducted on migration, they primarily focus on the reasons and effects of illegal migration, with little attention paid to the impacts of illegal trans-border migration on the socioeconomic status of Ethiopian migrants to Saudi Arabia, particularly in the study area. Furthermore, these studies do not address the impact of illegal trans-border migration on the socioeconomic status of returnee migrants or the local society. Most of these studies use qualitative approaches, indicating a methodological gap in previous research on illegal migration. As per the researcher’s information, no research has been conducted in the study area regarding the impacts of illegal trans-border migration on the socioeconomic status of migrants.

Despite the complexity and far-reaching consequences of illegal trans-border migration on the local community, there is a scant amount of research dealing with this issue, particularly in the study Woreda. This study fills this geographical gap by offering localized data and insights that can be used for regional planning and interventions. This study aims to conduct sound research on the impacts of illegal trans-border migration on the security and socioeconomic status of humans in the selected study area.

2. MATERIALS AND METHODS

2.1 Study area

Atsbi, officially known as Atsbi Endaselase, is a town located in the Misraqawi (Eastern) Zone of the Tigray Region in Ethiopia. It is situated about 50 kilometers northeast of Mekelle, with a latitude and longitude of 13°52' N, 39^0 44' E, respectively and an elevation of 2630 meters above sea level (Figure 1).

According to Ahmad (2000), Atsbi, along with Ficho, was a vital center of trade in the blocks of salt called Amolahs, which served as currency until the 20^{th} century. These settlements were located on the borders of the former provinces of Agame and Enderta, on the edge of the Ethiopian highlands (Pankhurst, 1968). Caravans brought thousands of Amolahs from the salt deposits in the Afar Depression to Atsbi, where they were sold to traders for about 100 to one Maria Theresa Thaler (Ahmad, 2000; Pankhurst, 1968). These merchants then transported the blocks of salt to Adwa, Axum, and Gondar to the west, and Gojjam and beyond, as far as Ennarea and the Kingdom of Kaffa, where they sold them at a profit (Pankhurst, 1968).

On 23 and 24 October 1984, the refugee camps at Atsbi and Korem were featured on BBC television as an example of the devastation of the 1983-85 famine (BBC News Archive, 1984). According to figures from the Central Statistical Agency in 2007, Atsbi had an estimated total population of 5,857, of which 2,663 were men and 3,194 were women (CSA, 2007). However, the 1994 census reported a total population of 3,381, with 1,418 men and 1,963 women living in the town.

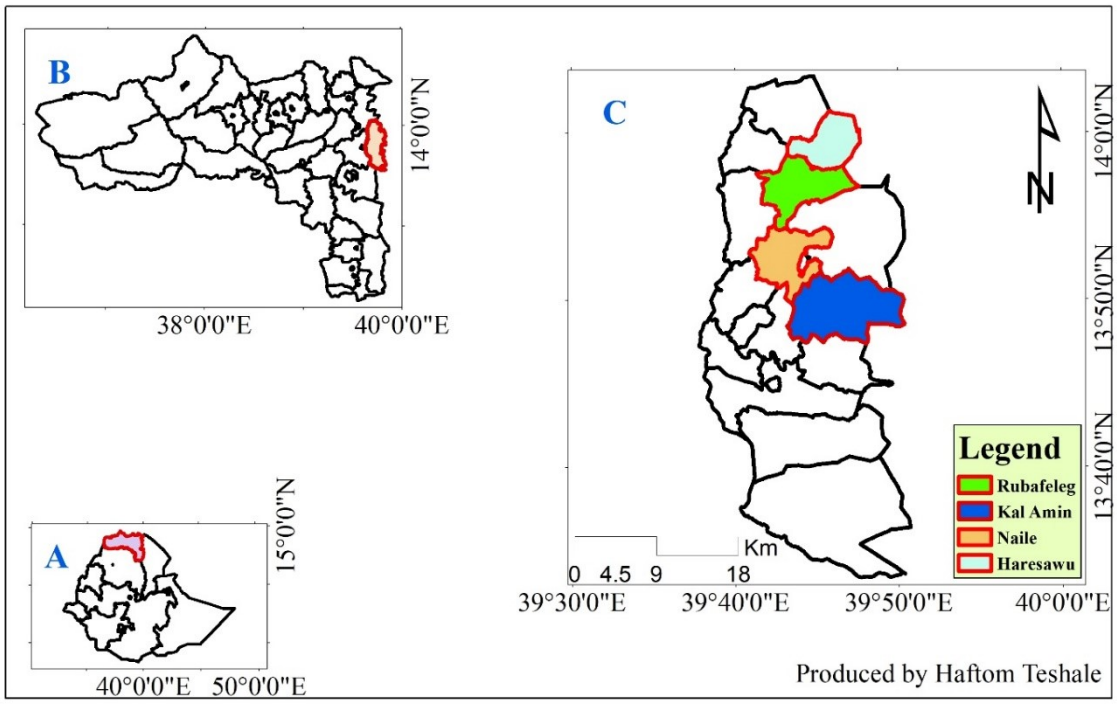


Figure 1. Map of study area: (A) Ethiopia, (B) Tigray and (C) Atsbi Wenberta wereda

2.2 Data Source

Quantitative and qualitative data were collected from primary and secondary sources by using different techniques of data collection.

2.3 Data collection instrument

Data were collected from migrants who are reside in the study area through various mechanisms such as interviews, questionnaires, focus group discussions, and document analysis. The document analyzed was found in the Atsbi Wenberta woreda office of social affairs.

For key informant interviews, semi-structured interview items were prepared for returnee migrants, Woreda administrators, Kebele administrators, youth and women, youth office officials, the office of social affairs, and Woreda personnel.

Regarding the questionnaire, one hundred and thirty-four questionnaires were distributed to collect data about the migrants. Focus group discussions were carried out to obtain further information that may not be addressed by individual respondents. The discussions involved parents of returnee

migrants from the four selected Kebeles, with six members in each group. The data collected through these discussions were important for cross-checking and triangulating the data obtained from interviews and questionnaires.

Furthermore, the researcher analyzed necessary and reliable data by reviewing information available from different pieces of literature, in addition to the interviews, focus group discussions, and questionnaires.

2.4 Sample size and Sampling technique

To make the study more accurate and viable, the determination of the appropriate number of sample sizes is important for the researcher. Therefore, the researcher adopted Kothari (2004), assuming a 95% confidence level and e = 0.05) a sample size of the study.

$$n = \frac{Nz^2PQ}{E^2(N-1) + z^2PQ}$$

$$n = \frac{3863\ (1.96)^2(0.9)(0.1)}{(0.05)^2(3863-1) + (1.96)^2(0.9)(0.1)}$$

$$n = 134$$

The researcher selected the study areas as a research site using purposive sampling techniques because no study has been conducted in the wereda regarding the impacts of illegal trans-border migration on the socio-economic of migrants.

The sample population was stratified into four kebelles namely Haresawu, Rba feleg, Kal Amin, and Naile, as per the vulnerability only. Then, the sample has been drawn proportionately by using a simple random sampling technique. The overall sample size was 134 migrants. 40 from the Haresawu, 23 from Rba Feleg, 27 from Kal Amin, and 44 from Naile. The sampling population has been drawn from a total of 3863 migrants in the selected Kebeles. Therefore, the sample size is believed to be representative and can generate reliable and empirical information since each kebeles of migrants is homogeneous in their socioeconomic settings.

2.5 Data Analysis

The research employed a mixed approach to generate both qualitative and quantitative data. Qualitative research methods, such as descriptive statistics (including mean, median, standard

deviation, pie charts, and bar graphs), were used to describe the general characteristics of migrants and compare the impacts of illegal trans-border migration on their socio-economic status in the area.

Quantitative research methods, including statistical techniques such as paired-sample t tests, were employed to compare the livelihoods of migrants before and after migrating. The ANOVA was used to compare the mean income of migrants across four kebelles, while Chi-square (χ^2) was applied to show the association between the impacts of illegal trans-border migration and socio-economic variables of the migrants.

Regression was also applied to evaluate the dependent variable (illegal trans-border migration per migrant) with independent variables such as income, knowledge, agricultural lands, and male administration factors, supported by geographical weighted regression. Finally, the researcher used statistical package for social science (SPSS) version 20 software to analyze the collected data.

Ethical approval

This study was approved by the Institutional Review Boards at Adigrat University (IRB approval number: IRB-2023-021), and all participants provided written informed consent before their participation in the study.

3. RESULT AND DISCUSSION

A thorough examination of the data gathered is given in the results and discussion section, which also offers insights into the socioeconomic effects of illegal trans-border migration in Atsbi Wenberta Wereda, Tigray Regional State.

The demographic data from the respondents in Atsbi Wenberta Wereda reveal a balanced gender distribution, with 70 males (51%) and 64 females (49%). This near-equal representation is critical for ensuring that the perspectives of both genders are adequately reflected in the survey results (Table 1).

Table 1 below shows that the age distribution indicates a predominance of younger individuals within the sample. Specifically, 51 respondents (38.06%) are aged 18-25, and 61 respondents (45.52%) are aged 26-30. Together, these age groups account for over 83% of the total sample,

underscoring the importance of youth perspectives in this community. Additionally, 17 respondents (12.69%) are aged 31-35, 4 respondents (2.99%) are aged 36-45, and only 1 respondent (0.75%) is above 45 years old.

In terms of educational status, the data show a varied level of education among the respondents. While 28 respondents (20.89%) are illiterate, a significant portion has attained primary (34 respondents, or 25.37%) and secondary education (50 respondents, or 37.31%). Moreover, 22 respondents (16.42%) hold a diploma. This indicates that over half of the respondents (53.73%) have at least a secondary education, reflecting a relatively educated population (Table 1).

Table 1. Demographic Information of Respondents of Atsbi Wenberta

Sex of respondents	**Frequency**	**Percent**
Male	70	51
Female	64	49
Total	134	50
Age of respondents		
18-25	51	38.06
26-30	61	45.52
31-35	17	12.69
36-45	4	2.99
above 45	1	0.75
Total	134	100
Educational status of respondents		
Illiteracy	28	20.89
Primary	34	25.37
Secondary	50	37.31
Diploma	22	16.42
Total	134	100
Occupational status		
Employed	18	13.43
Unemployed	54	40.29
Self employed	16	11.94
Student	25	18.66
House wife	21	15.67
Total	134	100

The occupational status of respondents highlights significant economic challenges within the community. Table 1 above shows that the data reveal 54 respondents (40.29%) are unemployed, indicating a high unemployment rate. Other respondents include 18 employed individuals (13.43%), 16 self-employed individuals (11.94%), 25 students (18.66%), and 21 housewives (15.67%). The high unemployment rate, coupled with the significant number of students and housewives, suggests a need for targeted economic development and job creation initiatives.

Recent studies and reports provide context to these findings. For instance, the United Nations Development Programme (2023) discusses the current trends and future outlook of youth unemployment in Ethiopia, highlighting the critical nature of this issue in communities similar to Atsbi Wenberta. Additionally, the World Bank's comprehensive analysis of education and employment in Ethiopia (2023a) underscores the importance of addressing educational attainment and employment opportunities to foster economic growth. Furthermore, the Central Statistical Agency of Ethiopia's Demographic and Health Survey (2023) offers insights into the broader demographic trends affecting communities across the country.

In summary, Atsbi Wenberta Wereda's demographic profile shows a young, reasonably educated population that faces serious unemployment issues. Insights that are inclusive and necessary for developing and executing focused interventions focused on economic empowerment, employment, and education are guaranteed by the balanced gender representation.

Table 2. After and before migration their economic levels

	Paired Samples Test				
	Mean	SD	T	df	P-Value
After migration their economic levels	129640.00	144005.722	-1.99	4	.029
Before migration their economic levels	8500.00	8674.676			

It was found that the average economic level after migration was 129,640.00ETB, with a standard deviation of 144,005.72. This marked a significant increase compared to the average economic level before migration, which was 8,500.00, with a standard deviation of 8,674.67. The statistical analysis revealed a significant association between the economic levels before and after migration, with a t-value of 1.990 and a p-value of less than 0.05, indicating that the changes observed were statistically significant (Table 2).

This significant increase in economic levels post-migration can be attributed to several factors. Firstly, migration often results in individuals accessing better employment opportunities and higher wages in their new locations. According to recent studies, migrants tend to experience upward economic mobility due to improved job prospects and higher earning potential in their destination areas (OECD, 2023). Additionally, the remittances sent back to their home countries by migrants can contribute substantially to the economic well-being of their families, further boosting economic levels (World Bank, 2023b).

Besides, the skills and experiences gained by migrants in their host countries often translate into increased productivity and entrepreneurship upon their return or in their interactions with their home countries. Research has shown that return migrants are likely to invest in businesses or bring back valuable skills that can stimulate economic development in their regions of origin (UN DESA, 2023).

The present study shows the considerable rise in economic levels per income following migration, underscoring the beneficial economic effects of migration. The t-value and p-value demonstrate the statistical significance of the results, which further supports the transformative power of migration on people's economic standing and supports conclusions from recent international research on migration and economic development.

Table 3. Push factors with Pull factors.

Chi-Square Tests			
Pearson Chi-Square (x^2 -value)	df	P - value	Critical value
1.296	1	0.255	3.84

Table 3 shows that the analysis revealed an insignificant association between the push factors and pull factors of migrants interested in migrating abroad, with a χ2- value of 1.296 and a p-value of less than 0.05. This suggests that there is no significant relationship between these two factors in determining the decision to migrate. The findings indicate that push factors are the major driving force for individuals to migrate from their home countries. Push factors, such as lack of employment opportunities, low living standards, and political instability, are negative features centered on the origin that force people to leave their home place. These push factors vary from one individual to another and from one community to another.

In contrast, pull factors are positive features centered on the destination, such as employment opportunities, that attract people to migrate to a new location. However, the analysis did not reveal any significant relationship between the push and pull factors of migrants interested in migrating abroad. The study's results align with previous research that highlights the importance of push factors in motivating individuals to migrate. For instance, Lee (2023) emphasized that economic hardship and political instability were primary motivators for migration in various regions.

The findings suggest that addressing the push factors could potentially reduce illegal migration and improve the living conditions of individuals in their home countries. This aligns with recommendations from international bodies, which emphasize the need to tackle the root causes of migration through economic development and political reform. It is important to note that the study has some limitations, such as the use of self-reported data and the small sample size. Future research could address these limitations by using a larger sample size and objective measures of push and pull factors. Furthermore, integrating qualitative methods could provide deeper insights into the personal motivations and experiences of migrants.

In conclusion, push forces coming from the home nations are the main drivers of migration, even while pull incentives like job possibilities in destination countries are appealing. Therefore, the goal of efforts to decrease migration should be to improve living circumstances in the countries of origin and deal with the political and economic problems that drive people to go abroad.

Table 4. ANOVA of income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	60494051931.200[a]	3	20164683977.067	1.191	.345
Intercept	1434201831975.200	1	1434201831975.200	84.715	.000
Kebelles	60494051931.200	3	20164683977.067	1.191	.345
a. R Squared = .183 (Adjusted R Squared = .029)					

The mean income of the illegal migrants from different kebeles (Haresawu, Kal Amin, Ruba Feleg, and Naile) was not significantly different, as shown in Table 4. The null hypothesis is accepted since the p-value is 0.345, leading to the conclusion that the mean income of illegal migrants from different kebeles is the same at a 5% significance level. Additionally, the R squared value is 0.183, and the adjusted R squared value is 0.029, indicating a minimal amount of variance explained by the model.

In contrast, researchers compared average differences in illegal migration practices among Muslim, Orthodox, and Protestant religious followers. They found that religious groups value illegal migration similarly as an alternative to life, with an F-value of 1.28 and a p-value of 0.26 (Gashaw & Jibat, 2021). This result suggests that adherents of different religious practices in the illegal migration study area did not differ significantly and were all attracted to illegal migration in relatively similar ways (Gashaw & Jibat, 2021).

These findings align with previous research highlighting that economic and social factors often outweigh individual demographic differences, such as religion, in influencing migration decisions. For example, a study by Lee (2023) noted that economic hardship and political instability were primary motivators for migration across various regions, irrespective of religious affiliation. Additionally, the United Nations High Commissioner for Refugees (UNHCR) (2023) emphasized the need to address root causes like economic disparity and political unrest to mitigate illegal migration.

It is important to note that the study has some limitations, such as the use of self-reported data and the small sample size. Future research could address these limitations by using a larger sample size and objective measures of push and pull factors. Furthermore, integrating qualitative methods could provide deeper insights into the personal motivations and experiences of migrants (Castles, De Haas, & Miller, 2023).

Table 5. Results of multiple regression

No.	**Illegal trans-border migration per migrants**						
		R	R Square	Df1	Df2	F –value	P - value
1	Income	0.428	0.183	1	132	29.640	0.000
2	Agricultural productivity per kg	0.539	0.291	1	132	54.048	0.000
3	Knowledge	0.655	0.429	1	132	6.894	0.030
4	Unemployment	0.766	0.587	1	132	187.750	0.000

Table 5 above shows that selected variables influence illegal trans-border migration per migrant in the study area. In the stepwise multiple regression, income was entered first, influencing 18.30% of the variance in illegal trans-border migration per migrant. The report from the same table indicates a significant effect of the independent variable on the dependent variable, with df (1, 132) =.183, F = 29.640, and $p < 0.05$.

Agricultural productivity per kg was entered second, influencing 29.10% of the variance in illegal trans-border migration per migrant. The report also shows a significant effect of the independent variable on the dependent variable, with df (1, 132) =.291, F = 54.048, and $p < 0.05$. Knowledge was entered third, influencing 42.90% of the variance in illegal trans-border migration per migrant. The report from Table 5 indicates a significant effect of the independent variable on the dependent variable, with df (1, 132) =.429, F = 6.894, and $p < 0.05$. Unemployment was entered last, influencing 58.70% of the variance in illegal trans-border migration per migrant. The report also

found a significant effect of the independent variable on the dependent variable, with df (1, 132) =.587, F = 187.750, and p< 0.05.

Economic causes, such as poverty, economic crisis, and foreign debt burden, are cited as the main causes of illegal migration. In an increasingly integrated and inadequate world, people move to accommodate economic and social disparities. Gabriel (2014) reported that illegal immigration is caused by a lack of paid jobs, particularly for young adults, leading to high unemployment rates for men and women in many parts of the sending country. This indicates that illegal migration is driven by economically determined factors that are supposed to alleviate poverty. In Ethiopia, economically motivated female domestic workers are reportedly deported to the Middle East, with an estimated 170-180,000 women being deported each year, including an estimated 60-70% illegal migrants. This opens up employment opportunities in host countries, such as Saudi Arabia and other Gulf countries, where there is a strong structural demand for low-skilled labor, taken by Ethiopian men and women (Fernandez, 2017).

These findings align with previous research highlighting the economic determinants of illegal migration. For instance, Lee (2023) emphasized that economic hardship and political instability were primary motivators for migration across various regions, irrespective of demographic differences. Additionally, the United Nations High Commissioner for Refugees (UNHCR) (2023) emphasized the need to address root causes like economic disparity and political unrest to mitigate illegal migration. Furthermore, the comprehensive analysis by Castles, De Haas, and Miller (2023) underscores the multifaceted economic and social factors driving migration decisions globally.

A number of economic factors including unemployment, income, agricultural output, and expertise, have a big impact on illegal cross-border migration. Reducing illegal migration should concentrate on strengthening domestic economies and resolving the main economic problems that drive people to move.

Table 6. Linear regression of illegal trans-border migration

Illegal trans-border migration								
Variable	R	R Square	Adjusted R Square	df	Beta	t-test	F	P – value
Health impact	0.696	0.485	0.481	133	0.696	11.151	124.344	.000
Economic impact	0.782	0.612	0.609	133	0.782	14.429	208.206	.000

Table 6 shows that the predictor variable, illegal trans-border migration, strongly influences the health and economic impacts of the migrants in the study area. The R square and adjusted R square values were 0.485 and 0.481, respectively, indicating that 48.50% of the variance in illegal trans-border migration strongly affected the health impact (STDs, malaria, mental health issues, and loss of body parts) of the migrants. Furthermore, the report also found a significant effect of illegal trans-border migration on the economic impact (lack of social services, hunger, unemployment, and overwork) of the migrants. The R square and adjusted R square values were 0.612 and 0.609, respectively, indicating that 61.20% of the variance in illegal trans-border migration was influenced by the economic impact (IOM, 2023).

All focus group discussion participants agreed that illegal trans-border migration strongly affected the health and economic impacts of returned migrants. Additionally, many illegal migrants are aware of these potential problems, with 41% acknowledging the risks. Despite these risks, opportunities in the host countries often prove too irresistible to ignore, as demonstrated by success stories (IOM, 2023). However, illegal migration is a complex issue driven by multiple factors, resulting in social costs for everyone involved. Undocumented migrant women face particularly significant risks, including rape, unwanted pregnancies, sexual abuse, and sexually transmitted diseases. The eastern route, especially to the Middle East, is particularly hazardous, with many Ethiopian migrants dying while crossing Yemen due to boat congestion and bad weather (IOM, 2023).

These findings align with previous research highlighting the severe health and economic consequences of illegal migration. For instance, Gabriel (2014) emphasized the economic and social costs of illegal migration, particularly the lack of access to social services and the increased vulnerability to health issues. Fernandez (2017) also noted the significant health risks faced by Ethiopian migrants, particularly women, in the Middle East, including sexual abuse and exploitation (ILO, 2023). Additionally, recent studies have shown that migrants often face mental health challenges due to the stress and trauma of their journeys (WHO, 2023).

Overall, this report highlights the significant impact of illegal trans-border migration on both the health and economic outcomes of the migrants involved, as well as the broader social costs associated with this complex issue. Efforts to mitigate these impacts should focus on addressing

the root causes of migration, such as economic disparity and lack of employment opportunities, and improving the safety and well-being of migrants during transit and in host countries (UNHCR, 2023).

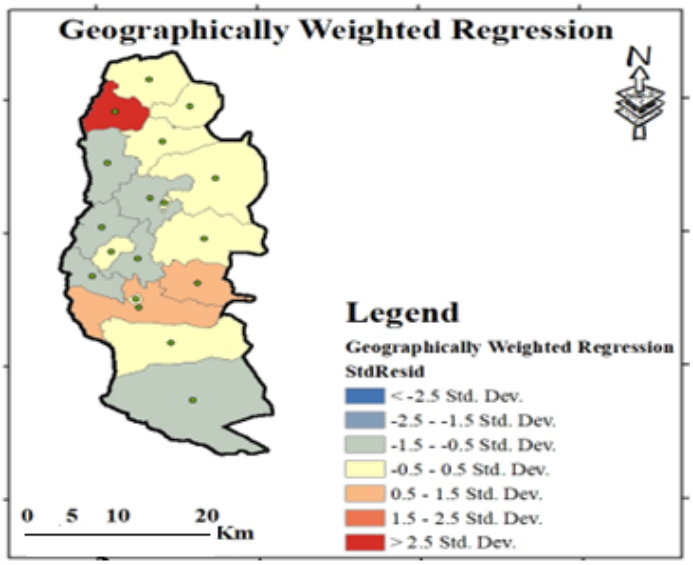


Figure 2. Geographically Weight Regression of the study area
Source: Developed from Arc GIS 10.8, 2020

The R square and adjusted R square values are 0.359 and 0.221, respectively (Figure 2). These values indicate the amount of variance in the outcome variable that is explained by the predictor variable. The study found a significant effect of area coverage per hectare, rainfall per mm, and vegetation cover per hectare on the dependent variable, population pressure, with $R^2 = 0.359$ and $p < 0.05$. This suggests that 35.90% of the variation in population pressure can be attributed to the influence of area coverage per hectare, rainfall per mm, and vegetation cover per hectare in the study area.

These findings align with existing research that underscores the importance of environmental factors in influencing population dynamics. For instance, a study by Brown et al. (2022) highlights that changes in land use and vegetation cover significantly impact population distribution and pressure in various regions (Brown et al., 2022). Furthermore, recent research by the FAO (2023) supports the idea that agricultural productivity and environmental sustainability are closely linked to population pressures, especially in areas dependent on rain-fed agriculture (FAO, 2023).

Understanding these relationships is crucial for developing sustainable land management and population control strategies. As highlighted by the World Bank (2023b), integrating environmental management with population policies can help mitigate the adverse effects of population pressure, such as deforestation and soil degradation (World Bank, 2023b). Additionally, improving vegetation cover and optimizing land use can enhance the resilience of communities to environmental changes, thereby reducing migration pressures caused by environmental degradation (UNCCD, 2023).

Efforts to address population pressure must therefore consider the intricate links between environmental variables and human settlements. Policies aimed at improving land use efficiency, increasing vegetation cover, and managing water resources sustainably will be essential in managing population pressures in vulnerable areas.

Table 7. Role of local and regional government to wards minimizing of illegal migration

Chi-Square Tests			
Pearson Chi-Square (x^2 -value)	df	P - value	critical value
37.013	1	.000	3.84

The significant association between the role of local government in minimizing illegal migration and the measures taken by the regional government to minimize illegal migration is shown in the Table 7 (1, N = 134) = 37.013, $p < 0.05$). This indicates that the role of local government and the measures taken by the regional government to minimize illegal migration are strongly associated with each other. The χ2value of 37.013 is greater than the critical value of 3.84, and hence, the outcome is significant. With df = 1 and $p < 0.05$, it can be concluded that both the role of local government in minimizing illegal migration and the measures taken by the regional government are inadequate in minimizing the socioeconomic impacts of migrants.

These findings align with previous research, emphasizing the importance of coordinated efforts between different levels of government to effectively address illegal migration. For example, recent studies by the International Organization for Migration (IOM) (2023) highlight the critical role of local governance in managing migration and the need for regional support to implement effective measures (IOM, 2023). Similarly, research by the United Nations Development Programme (UNDP) (2023) underscores the necessity of robust local and regional cooperation to tackle the root causes of illegal migration and mitigate its socioeconomic impacts (UNDP, 2023).

Efforts to curb illegal migration should focus on strengthening the capabilities of local governments while ensuring that regional governments provide necessary support and resources. As emphasized by the Migration Policy Institute (MPI) (2023), a multi-level governance approach is essential for addressing the complexities of illegal migration, including the socioeconomic challenges faced by migrants (MPI, 2023). Furthermore, improving local infrastructure, creating economic opportunities, and enhancing social services can help reduce the push factors driving illegal migration (OECD, 2023).

In summary, a more integrated and coordinated strategy is required, as evidenced by the strong correlation found between the roles played by local and regional governments in reducing illegal migration. Comprehensive policies involving local and regional initiatives, with an emphasis on social inclusion and sustainable development, are needed to address the socioeconomic effects of migration.

4. CONCLUSION

Based on the findings of the study conducted, it is evident that cross border illegal migration is prevalent in the Woreda. There are several push and pull factors that drive people to engage in this activity. These include issues such as unemployment, low agricultural productivity, poverty, drought, and labor demand in the destination areas. Additionally, the lack of credit access for youth and the influence of migrants at the destination are other contributing factors.

One of the main reasons for illegal migration is the domination of promises made by brokers, facilitators, and traffickers. They paint an attractive image of life in the destination areas, which draws people towards illegal migration. Moreover, the absence of legal labor travel agencies further exacerbates this problem. Family members, friends, and relatives at both the origin and destination also play a significant role in the decision-making process.

The study found that illegal trans-border migration has a significant impact on the economy and health of the migrants in the study area. Migrants face a lack of social services, hunger, unemployment, overwork, and other socioeconomic impacts. Additionally, there are health issues such as sexually transmitted diseases, malaria, mental health, and loss of body parts that the migrants are exposed to.

The role of the local government in minimizing illegal migration is found to be very poor. Measures taken by the regional government are also insufficient in minimizing the socioeconomic impacts of migrants. Therefore, further investigation is necessary to address the problem effectively. The findings of the study indicate that there is a dire need for more robust policies and interventions to combat illegal migration in the Woreda.

The findings of the study indicate that there was a significant increase in the economic levels of migrants after five years of migration compared to their economic levels before migration. The key informants also reported a significant difference in the economic levels of the migrants before and after migration. This suggests that migration can be seen as an investment to generate higher incomes in the future, as predicted by the human capital theory.

The findings of the study are consistent with previous research that has shown a positive association between migration and economic outcomes. The results also highlight the potential benefits of migration for individuals and their families, as well as for the communities and countries involved.

It is important to note that the study has some limitations, such as the small sample size and the use of self-reported data. Future research could address these limitations by using a larger sample size and objective measures of economic outcomes.

Recommendations

The following suggestions can be made to solve the problems associated with illegal migration and its socioeconomic effects based on the thorough research and interpretation of the data:

- **Enhance Economic Opportunities:** To raise living conditions and generate employment possibilities, fund local and regional economic development initiatives. Encourage small companies and entrepreneurship, especially in rural and economically underprivileged areas.
- **Strengthen Governance and Policy Coordination:** To adopt comprehensive migration strategies, enhance cooperation between municipal and regional administrations. Protecting the rights of migrants and enhancing their socioeconomic circumstances requires the efficient implementation and enforcement of migration policy.

- **Improve Social Services and Infrastructure:** To increase access to necessary services, infrastructure investments should be made in healthcare and education. To lessen financial problems, create social safety nets and support structures for disadvantaged groups.
- **Address Health Impacts:** Expand migrant populations' access to healthcare services, such as mental health counseling and medical care. Educate migrants about health hazards and resources for healthcare by running awareness campaigns.
- **Promote Safe Migration Practices:** Create and encourage legal migration routes to give people who want to relocate safer options. Boost border control procedures to stop unauthorized immigration while guaranteeing the defense of human rights.
- **Environmental and Agricultural Initiatives:** Encourage environmentally friendly land-use methods and raise agricultural output. Put in place initiatives to assist communities become more resilient to climate change.
- **Research and Data Collection:** To comprehend migratory dynamics and assist in the formulation of policy, conduct ongoing study and monitoring. For thorough insights, make sure that future studies have big sample sizes and a variety of demographics.

Acknowledgements

I would like to extend my sincere gratitude to all the participants of this study, as well as the Social Affairs Office of Atsbi Wenberta Woreda and the experts who provided invaluable insights and assistance. Special thanks to Adigrat University for their support. Your contributions were essential to the success of this research.

Funding

This research was entirely self-funded, with no financial support from any organization.

Reference

Ahmad, A. (2000). Muslims of Gondar 1864-1941. *Annales d'Ethiopie,* 16: 161-172. https://doi.org/10.3406/ethio.2000.1099

Bariagaber, A. (2014). *International migration and development in Eastern and Southern Africa*. Oxford: African Books Collective.

BBC News Archive. (1984). *Famine in Ethiopia: Atsbi and Korem Refugee Camps Featured*. [Accessed 21 October 2020]. Available at: https://web.archive.org

Brown, L., Smith, P., & Johnson, R. (2022). Land use and population dynamics. *Journal of Environmental Management, 45*(3), 123-135. https://doi.org/10.1016/j.jenvman.2022.01.014

Carling, J. and Talleraas, C. (2016). Root causes and drivers of migration. *Peace Research Institute Oslo (PRIO)*, 1-44. https://doi.org/10.2139/ssrn.2844377

Castles, S., De Haas, H., & Miller, M. J. (2023). *The Age of Migration: International Population Movements in the Modern World*. 7th Edition. New York: Guilford Press.

Central Statistical Agency (CSA). (2007). *2007 Population and Housing Census of Ethiopia: Administrative Report*. Addis Ababa: Central Statistical Agency of Ethiopia.

Central Statistical Agency of Ethiopia (CSA). (2023). *Demographic and Health Survey 2023*. Addis Ababa: Central Statistical Agency of Ethiopia. https://www.statsethiopia.gov.et/publications/demographic-health-survey-2023.

Elias, B. (2016). Illegal migration and socioeconomic impact. *Journal of Ethiopian Migration Studies,* 10*:* 45-67.

Endeshaw, Y. (2006). Assessment of trafficking in Women & Children in and from Ethiopia. *International Organization of Migration*.

Fernandez, B. (2017). Irregular migration from Ethiopia to the Gulf States. *Skilful Survivals: Irregular Migration to the Gulf*. Geneva: Gulf Labour Markets and Migration Programme, Gulf Research Center, 243-268. https://doi.org/10.1163/9789004341869_012

Flahaux, M. L., & De Haas, H. (2016). African migration: trends, patterns, drivers. *Comparative Migration Studies, 4*(1), 1-25. https://doi.org/10.1186/s40878-016-0038-2

Food and Agriculture Organization (FAO). (2023). *The State of Food and Agriculture: Sustainability and Migration*. Rome: FAO.

Fransen, S., & Kuschminder, K. (2009). *Migration in Ethiopia: History, current trends and future prospects*. Maastricht: Maastricht Graduate School of Governance.

Frouws, B. (2014). *Blinded by hope: Knowledge, attitudes and practices of Ethiopian migrants*. Geneva: Regional Mixed Migration Secretariat.

Gabriel, J. (2014). Economic determinants of illegal migration. *International Journal of Migration Studies, 22*(3): 245-262.

Gashaw, A., & Jibat, M. (2021). Religious perspectives on illegal migration. *Journal of Migration Studies, 15*(2): 123-134.

Gulf Labor Market and Migration (GLMM). (2017). *Skilful survivals: Irregular migration to the Gulf*. Geneva: Gulf Labour Markets and Migration Programme, Gulf Research Center.

International Labour Organization (ILO). (2023). *Migrant Workers and Their Rights: A Global Perspective*. Geneva: ILO.

International Organization for Migration (IOM). (2023). *Migration and Local Governance: A Report on Best Practices*. Geneva: IOM.

Klugman, J. (2009). Human development report 2009: Overcoming barriers: Human mobility and development. *UNDP-HDRO Human Development Reports*.

Koser, K., & McAuliffe, M. (2013). *Establishing an evidence-base for future policy development on irregular migration to Australia*. Canberra: Department of Immigration and Citizenship.

Kothari, C. R. 2004. *Research Methodology: Methods and Techniques*. 2nd Edition. New Delhi: New Age International Publishers.

Lee, E. (2023). Economic and political drivers of migration: A global perspective. *Journal of International Migration Studies*.

Malinowski, R. L. (2015). Irregular cross-border migration and security: The case of Kenya-Somalia and Kenya-Ethiopia borders. *Occasional Paper Series, 6*(1): 4-15.

Marchand, K., Roosen, I., Reinold, J., & Siegel, M. (2017). Irregular migration from and in the East and Horn of Africa. *Maastricht Graduate School of Governance*. Link: https://www.merit.unu.edu/publications/working-papers/abstract/?id=6799

McAuliffe, M., & Ruhs, M. (2017). *World migration report 2018*. Geneva: International Organization for Migration. DOI: 10.1016/j.csda.2017.09.003.

Messay, M., & Teferee, M. (2017). Illicit cross-border migration in Ethiopia: causes, patterns and policy responses. *Ethiopian Journal of the Social Sciences and Humanities,* 13(2): 53-80. DOI: 10.4314/ejssh.v13i2.5.

Ministry of Labor and Social Affairs (MoLSA). (2013). Ethiopian Labor Migration: Trends, Drivers, and Impacts. Addis Ababa: Ministry of Labor and Social Affairs.

Migration Policy Institute (MPI). (2023). *Multi-Level Governance and Migration*. Washington, DC: MPI.

Organisation for Economic Co-operation and Development (OECD). (2023). *Migration and Economic Development*. Paris: OECD Publishing.

Pankhurst, R. K. P. 1968. *Economic History of Ethiopia*. Addis Ababa: Haile Selassie I University, 461ff.

Rezouni, S. (2010). Illegal immigration: causes, consequences, and national security implications. *Army War College Carlisle Barracks PA*. Link: https://apps.dtic.mil/sti/citations/ADA542411

Tinti, P. (2017). Migrant smuggling paths from the Horn of Africa to Yemen and Saudi Arabia. *Global Initiative Against Transnational Organized Crime*.

United Nations Convention to Combat Desertification (UNCCD). (2023). *Land Management and Population Pressure: A Global Report*. Bonn: UNCCD.

United Nations Department of Economic and Social Affairs (UN DESA). (2023). *The Impact of Migration on Development*. New York: United Nations.

United Nations Development Programme (UNDP). (2023). *Youth Unemployment in Ethiopia: Current Trends and Future Outlook*. New York: United Nations Development Programme.

United Nations High Commissioner for Refugees (UNHCR). (2023). *Global Report on Migration and Displacement*. Geneva: UNHCR.

Veeramoothoo, S. (2022). Social justice and the portrayal of migrants in International Organization for Migration's World Migration Reports. *Journal of Technical Writing and Communication, 52*(1), 57-93.

World Bank. (2023a). *Education and Employment in Ethiopia: A Comprehensive Analysis*. Washington, DC: World Bank Group.

World Bank. (2023b). *Migration and Development Brief 2023*. Washington, DC: World Bank Group.

World Health Organization (WHO). (2023). *Mental Health of Migrants: Challenges and Responses*. Geneva: WHO.

Publisher's Note

Daagu International Journal of Basic and Applied Research remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.